Proposed Item for Biobased Designation

The following biobased product information has been collected to support item designation by USDA for the BioPreferred Program. This summary reflects data available as of November 11, 2008.

Title: Office Paper

Description: Paper products used in office printer and copier applications, writing, and coated papers for publications.

Companies Supplying Item: 13 companies supplying Office Paper have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

Industry Associations Investigated: The following industry associations have been investigated for member companies supplying Office Paper:

- United Soybean Board
- Technical Association of the Pulp and Paper Industry
- Paper Industry Association Council
- American Forest & Paper Association
- Forest Products Society
- Forest Resources Association Inc.
- National Paper Trade Association Inc.
- Newspaper Association of America
- Paper Industry International Hall of Fame Inc.
- Paper Industry Management Association
- Printing Industries of America, Inc.
- Green Press Initiative
- Conservatree
- Fiber Futures

Commercially Available Products Identified: Of the companies identified, 20 Office Papers are commercially available on the market.

Product Information Collected: Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 8 Office Papers.

Industry Performance Standards: Product information submitted by biobased manufacturers and suppliers indicate that have typically been tested to the following industry standards:

- JCP A230 Printing Paper - High Yield Coated Opaque Offset (Light Coating)

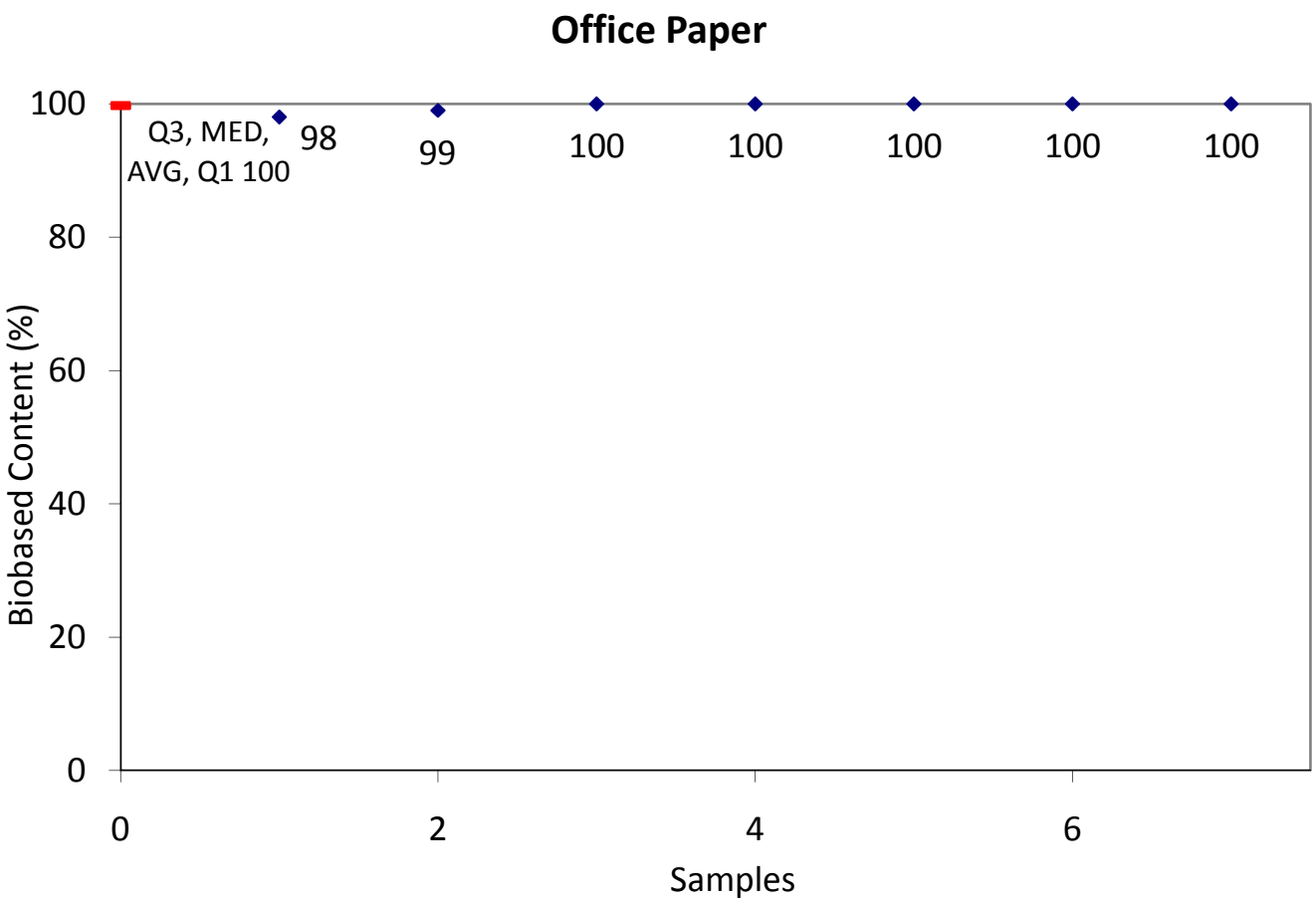
Samples Tested for Biobased Content: 7 samples of Office Paper have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866-04.

Biobased Content Data: Results from biobased content testing of Office Paper indicate a range of content percentages from 98% minimum to 100% maximum biobased content as defined by ASTM D 6866-04. A detailed distribution of biobased content levels is included as Appendix A.

Products Submitted for BEES Analysis: Life-cycle cost and environmental effect data for 1 Office Paper has been submitted to NIST for BEES analysis.

BEES Analysis: The life-cycle cost of the submitted Office Paper is $29.95 per usage unit. The environmental score is 0.2793. A detailed summary of the BEES results is included as Appendix B.

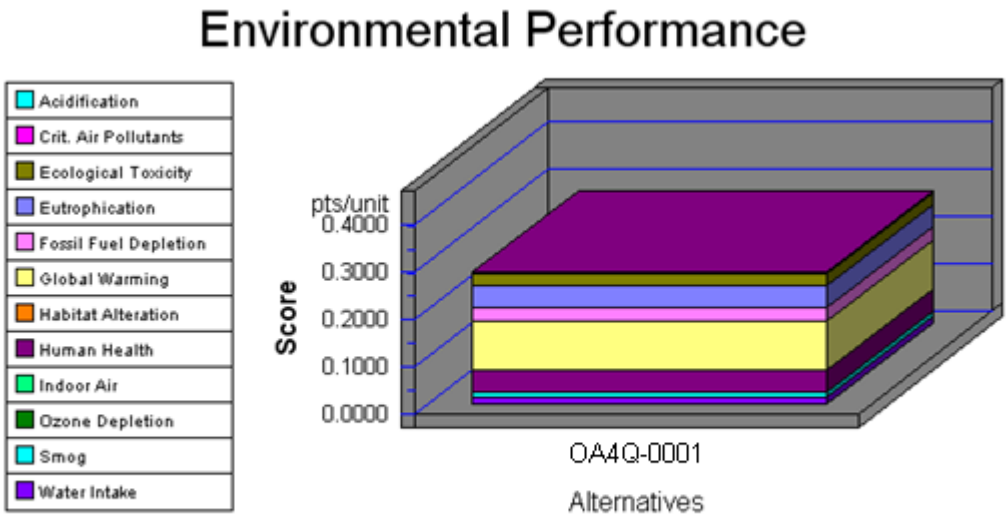
Appendix A - Biobased Content Data



	Company	Product	C14	BEES
1	QW4J	QW4J-0002	98	
2	DPKX	DPKX-0004	99	
3	WS82	WS82-0001	100	
4	WV3A	WV3A-0001	100	
5	OA4Q	OA4Q-0001	100	Yes
6	QW4J	QW4J-0003	100	
7	WS82	WS82-0002	100	

Appendix B - BEES Analysis Results

Functional Unit: 1 carton



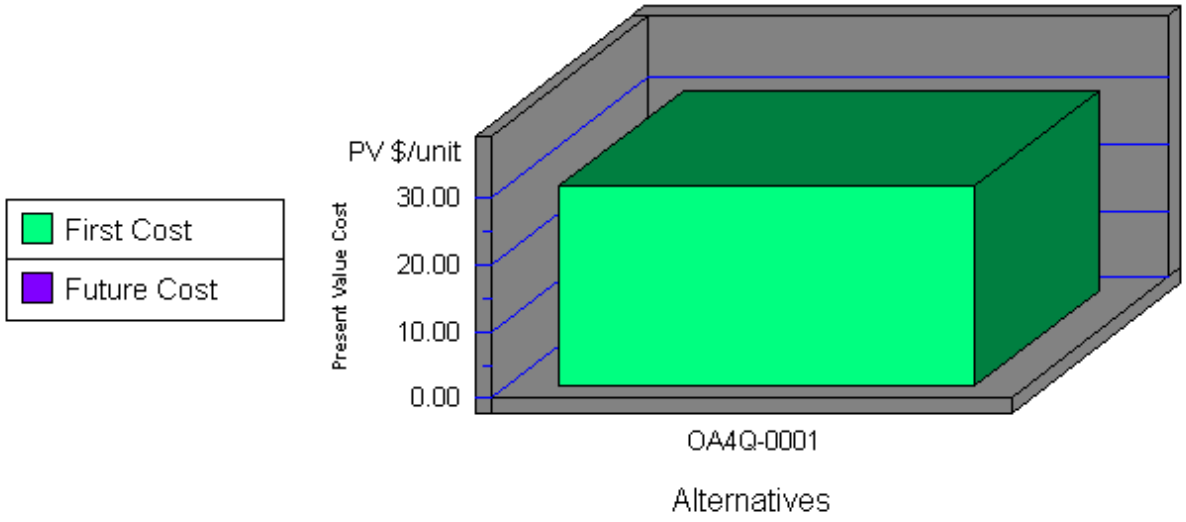
Note: Lower values are better

Category	OA4Q-0001
Acidification--3%	0.0000
Crit. Air Pollutants--9%	0.0021
Ecolog. Toxicity--7%	0.0268
Eutrophication--6%	0.0455
Fossil Fuel Depl.--10%	0.0281
Global Warming--29%	0.1053
Habitat Alteration--6%	0.0000
Human Health--13%	0.0464
Indoor Air--3%	0.0000
Ozone Depletion--2%	0.0000
Smog--4%	0.0097
Water Intake--8%	0.0154
Sum	0.2793

Paper (Printing and Writing)		
Impacts	Units	OA4Q-0001
Acidification	millimoles H^+ equivalents	2.17E+04
Criteria Air Polutants	microDALYs	4.44E+00
Ecotoxicity	g 2,4-D equivalents	3.12E+02
Eutrophication	g N equivalents	1.46E+02
Fossil Fuel Depletion	MJ surplus energy	9.90E+01
Global Warming	g CO_2 equivalents	9.29E+04
Habitat Alteration	T&E count	0.00E+00
Human Health--Cancer	g C_6H_6 equivalents	2.97E+01
Human Health--NonCancer	g C_7H_8 equivalents	2.78E+04
Indoor Air Quality	g TVOCs	0.00E+00
Ozone Depletion	g CFC-11 equivalents	2.07E-05
Smog	g NO_x equivalents	3.68E+02
Water Intake	liters of water	1.02E+03
Functional Unit	----------	1 carton

1 Following are more complete descriptions of units: Acidification: millimoles of hydrogen ion equivalents; Criteria Air Pollutants: micro Disability-Adjusted Life Years; Ecological Toxicity: grams of 2,4-dichlorophenoxy-acetic acid equivalents; Eutrophication: grams of nitrogen equivalents; Fossil Fuel Depletion: megajoules of surplus energy; Global Warming: grams of carbon dioxide equivalents; Habitat Alteration: threatened and endangered species count;Human Health-Cancer: grams of benzene equivalents; Human Health-NonCancer: grams of toluene equivalents; Indoor Air Quality: grams of Total Volatile Organic Compounds; Ozone Depletion: grams of chloroflourocarbon-11 equivalents; Smog: grams of nitrogen oxide equivalents; and Water Intake: liters of water.

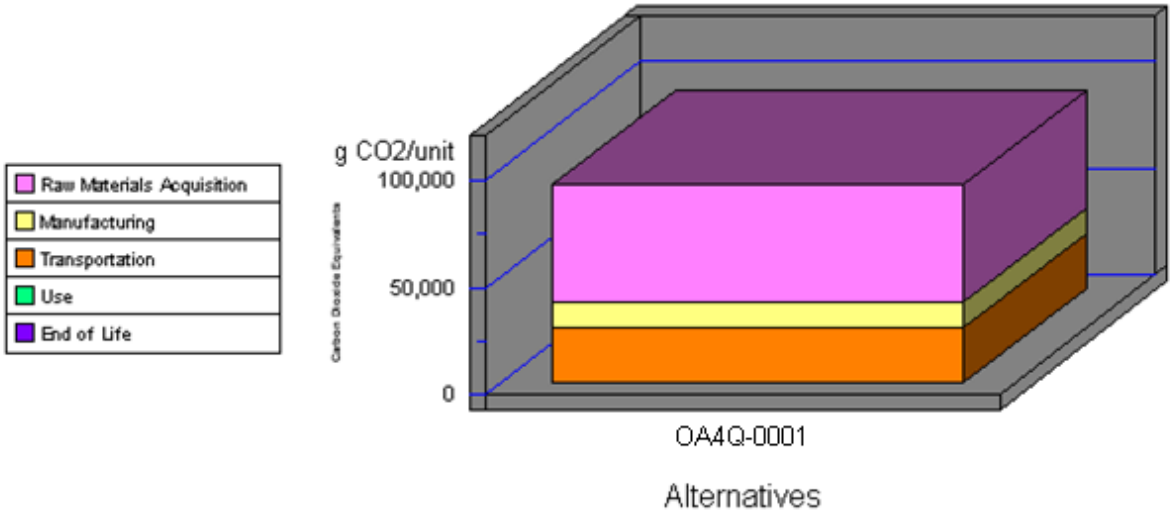
Economic Performance



Category	OA4Q-0001
First Cost	29.95
Future Cost-- 3.0%	0.00
Sum	29.95

*This is a consumable product. Therefore, future costs are not calculated.

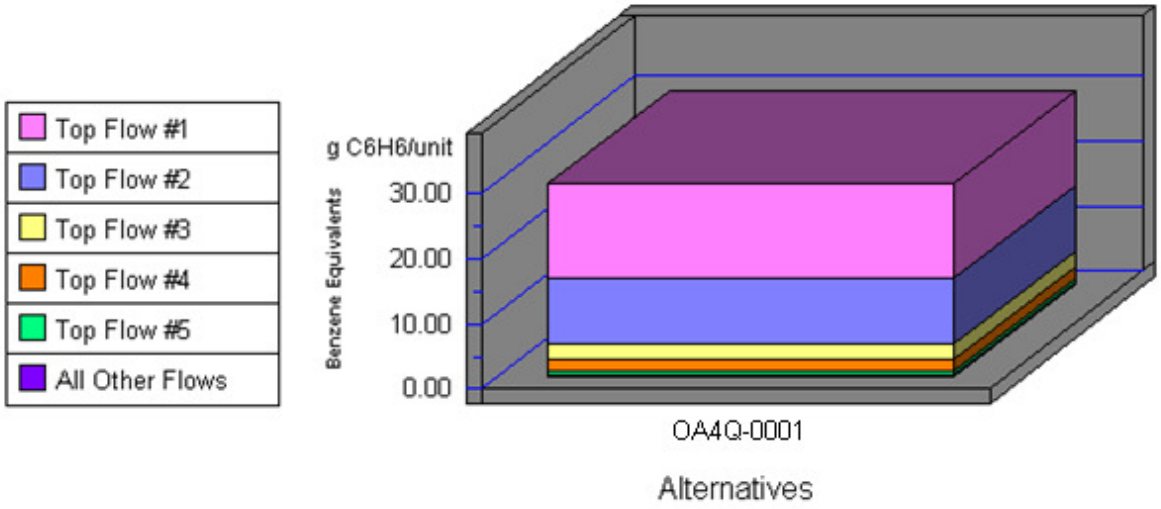
Global Warming by Life-Cycle Stage



Note: Lower values are better

Category	OA4Q-0001
1. Raw Materials	54671
2. Manufacturing	11794
3. Transportation	26429
4. Use	0
5. End of Life	0
Sum	92894

Human Health Cancer by Sorted Flows*

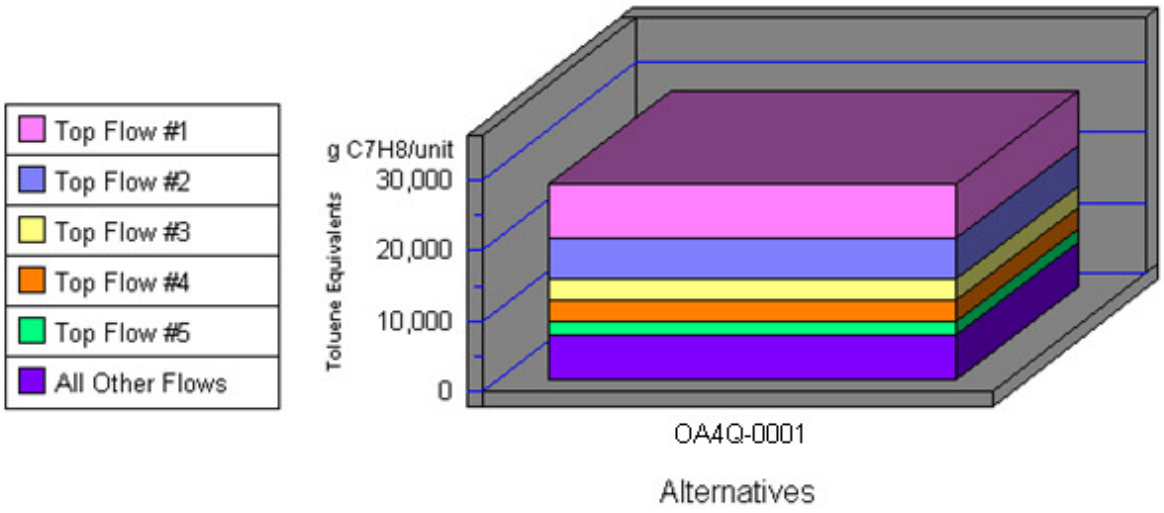


Note: Lower values are better

Category	OA4Q-0001
Cancer--(w) Arsenic (As3+, As5+	14.39
Cancer--(w) Phenol (C6H5OH)	10.29
Cancer--(a) Dioxins (unspecifie	2.29
Cancer--(a) Arsenic (As)	1.79
Cancer--(a) Benzene (C6H6)	0.53
All Others	0.41
Sum	29.70

*Sorted by five topmost flows for worst-scoring product

Human Health Noncancer by Sorted Flows*



Note: Lower values are better

Category	OA4Q-0001
Noncancer--(a) Mercury (Hg)	7,795.18
Noncancer--(w) Barium (Ba++)	5,688.99
Noncancer--(w) Lead (Pb++, Pb4+	3,062.73
Noncancer--(a) Dioxins (unspeci	2,884.42
Noncancer--(a) Lead (Pb)	1,876.83
All Others	6,501.71
Sum	27,809.86

*Sorted by five topmost flows for worst-scoring product